# VOLUME 23 1989

## SUBJECT INDEX


ACTH, 215, 389
Acetaminophen, 573
Acetylcholinesterase inhibitors, 145
Active sleep, 463
Adenosine, 37
Adenylate cyclase, 69
Adrenalectomy, 553
Adrenaline, 237
Adrenergic antagonists, 339
Adrenocorticotropin, 397
Alcohol, 273
Aldehyde dehydrogenase, 273
Aldosterone, 553
Aluminum, 433, 439
Amantadine, 267
Ambient temperature, 137
Angiotensin II, 41
Angiotensin antagonists, 289
Anisomycin, 215
Antiopiate, 443
Antipyretic drugs, 573
Anxiolytic, 317
Area postrema, 175
Arterial pressure, 289
Ascorbic acid, 323
Astrocytes, 1, 311
Atropine and learning, 347
Avoidance learning, 365

Baboons, 333
Bed nucleus of the stria terminalis, 561
Behaving cats, 111
Behavioral arousal, 111
Benzodiazepine, 413, 443
Blood-brain barrier, 433, 439
Body temperature, 137
Brain, 19, 433
Brain amines, 267
Brain, developmental effects of nicotine, 187
Brain microvasculature, 1
Brain spectrin, 311
Brain stem, 201, 509
Brainstem slice, 149
α-Bromo-ergocryptine, 193

CD 2, 549
c-fos, 577
CNS stimulants, 339
Caffeine, 37
Calbindin D28k, 493
Calcium binding proteins, 493
Canine, 509
Capsaicin, 493
Cardiorespiratory responses, 299
Cat, 83, 201
Catecholamines, 389
Caudal nucleus tractus solitarius, 299
Caudate, 237
Caudate-putamen, 129
Cell bodies, 277
Cell culture, 161
Central and peripheral effects, 417
Central nervous system, 493
Cerebellar Purkinje cell, 317
Cerebellum, terbutaline effects on development, 263
Cerebral cortex, 237
Chicken, 171
Chloride, 171
Cholera toxin, 83
Cholesterol, 69
Choline acetyltransferase, 519
Cholinergic projections, 519
Cholinergic systems and learning, 347
Cholinergic systems and spatial navigation, 347
Cimetidine, 273
Circadian rhythm, 137
Clonidine, 293, 417
Colchicine, 47, 201
Conditioned reward, 365
Convulsive effects, 257
Corticosterone, 553
Corticotropin-releasing factor, 215, 389, 397
Cranial nerve nuclei, 519
Cyproheptadine, 121
Cytokines, 433
Cytoskeleton, 19, 311

$D_1$ receptor, 69
D1 and D2 receptors, 373
DG-5128, 417
DNA, in developing brain, 187
DOPAC, 323
Delayed neuronal death, 569
Development, 293
Dialysis, 323
Diazepam, 333
Dopamine, 69, 237, 323, 365, 373
Dopamine neurons, 121
Dopaminergic neurons, 1
Dorsal medulla, 447
Dorsal motor nucleus of the vagus, 149
Dorsal raphe, 405
Double labeling, 83
Drinking, 41, 289
Drug interactions, 267, 573
Drugs, 339

ECoG, 145
EEG activation, 111
Electrodes, 155
Electromyography, 155
Electron microscopy, 249
Electrophysiology, 219, 389, 397
Enkephalin, 277
Entrainment, 577
Epinephrine, 477
Estradiol, 215
Estrogen, 105, 183, 553
Estrous cycle, 283
Ethanol, 53, 333
Ethanol drinking, 273
Ethanol narcosis, 273
Evoked potentials, 283
Excitatory amino acids, 25, 145

Feeding behavior, 553
Fever, 209, 573
Fluorescence polarization, 69
Fodrin, 19
Forebrain afferents, 83
Formaldehyde, 457
Fourth ventricle, 175
Functional heterogeneity, 299

GABA, 53, 171, 443
GABA antagonists, 339
$GABA_A$ receptor, 317, 413
$GABA_B$ receptor, 317
Glucocorticoid and mineralocorticoid receptors, 553
Glutamate, 25, 447, 541
Growth hormone, 417
Gustatory, 219

H1-receptor, 183
HPLC, 237
Hexokinase activity, 47
Hind leg myopathy, 257
Hippocampus, 129, 237, 293, 467
Hippocampus CA1, 569
Histalog, 273
Histamine, 183
Hormones, 339
Horseradish peroxidase, 61
γ-Hydroxybutyrate receptors, 129
6-Hydroxydopamine, 129, 397
(±)-8-Hydroxy-2-(di-N-propylamino) tetralin (8-OH-DPAT), 541
Hyperalgesia, 457
Hypoglossal nucleus, 249
Hypotension, 37
Hypothalamic slices, 209
Hypothalamus, 105, 165, 183, 215
Hypoxia, 37

IL 2, 549
Ibuprofen, 573
Idazoxan, 425
Imaging, 229
Immunocytochemistry, 19, 201, 249, 277, 561
Immunohistochemistry, 493
Indomethacin, 471
Inhibitory response, 317
Interleukin, 433
Interleukin-1 β, 209
Intracellular recording, 149
Intraventricular, 165
In vivo efflux of monoamine metabolites, 541
In vivo release of dopamine, 541
In vivo voltammetry, 323
Ischemia, 323
Isoproterenol, 41

Jaw muscles, 155

Kainic acid, 129, 447, 477

LH, 483
LH and prolactin, 193
Latent extinction, 339
Latent inhibition, 339

Latent learning, 339
Lateral hypothalamus, 477
Laterodorsal tegmental nucleus, 519
Learning, 339, 359
Leu-enkephalin, 439
Light, 577
Limbic system, 561
Locus coeruleus, 283
Lorazepam, 171

MIF-1, 413, 443
MK-801, 145
MPTP, 1
α-MSH, 573
Macronutrients, 553
Magnetic resonance imaging (MRI), 229
Manganese, 229
Masculine sexual behavior, 483
Match-to-sample test, 333
Medial amygdala, 561
Medial preoptic area, 137
Median eminence, 389, 397
Medulla oblongata, 509
Medullary vasomotor mechanism, 447
Membrane skeleton, 311
Memory, 339
Mepyramine binding, 183
Mesostriatal dopaminergic system, 61
Metabolites, 237
Met-enkephalin, 439
Methionine sulfoximine, 257
N-methyl-d-aspartate, 145
α-Methylparatyrosine, 397
Microinfusion, 541
Microiontophoresis, 293, 405
Microstimulation, 299
Mongolian gerbil, 569
Monkey, 175
Monoclonal antibodies, 311
Morphine, 405, 549
Morphology, 509
Morphometry, 561
Motor activity, 267, 273, 467
Mouse strains, 61
Muscimol, 541

Naloxone, 209, 443, 549
Neuroanatomy, 19
Neuroendocrine control, 283
Neuronal discharge, 111
Neuropeptide Y, 201
Neuropeptides, 359
Neuroprotection, 467
Neurotransmission, 47
Newborn cats, 463
Nicotine, effects on nervous system development, 187
Nicotinic receptors, in developing brain, 187
Nociception, 457
Noradrenaline, 237, 293, 373
Norepinephrine, synaptosomal uptake during development, 263
Noxious stimuli, 121
Nucleus accumbens, 541
Nucleus tractus solitarii, 509

Obesity, 165
Operant responding, 365
Opiate antagonists, 339
Opiate receptor subtypes, 373
Opiates, 373, 439, 443
Ornithine decarboxylase, in developing brain, 187
Ovariectomy, 183, 215
Oxypurinol, 467

PNMT, 477
Pain, 405
Parabrachial pons, 219
Parafasciculus, 405
Paraventricular nucleus, 47, 283, 389, 397, 553
Parvalbumin, 493
Pedunculopontine tegmental nucleus, 519
Peptides, 105, 413, 439, 561
Performance, 339, 359
Performance learning and cholinergic drugs, 347
Periaqueductal gray, 25
Peripheral blood lymphocyte, 549
Persistent estrous, 283
Pineal gland, 229
Pituitary gland, 229
Place conditioning, 365, 373
Plasma ACTH, GH, Prl and TSH, 471
Plasma and pituitary FSH, 193
Portable incubator, 161
Posterior hypothalamus, 83
Posterior lateral hypothalamus, 111
Posttraining treatments, 339
Potentiation, 317
Power spectral analysis, 145
Pregnancy, 219
Prenatal exposure, 171
Preoptic hypothalamus, 209
Progesterone, 105, 317
Prolactin, 417, 425, 483
Proliferative response, 549
Psychomotor stimulants, 373
Putamen, 237

Quantitative autoradiography, 129
Quiet sleep, 463

REM sleep, 293
Rabbit, 237, 257, 573
Raphe nuclei, 519
Rat, 41, 75, 149, 249, 277, 293, 577
Rauwolscine, 425
$\alpha_2$ Receptor agonist, 417
$\alpha_2$ Receptors, 425
Rectal temperature, 471
Reinforcement, 373
Renin-angiotensin system, 289
Reserpine, 267
Respiratory nuclei, 201
Reticular formation, 457
Reticular nuclei, 519
Retinal afferents, 577
Retrograde transport, 25

SCH23390, 69
SDN-DOA-lesions, 483
SEN, 175
Saralasin, 289
Scent marking, 105, 483
Seizures, 145
Selected mouse lines, 53
Serotonin, 41, 121, 237, 249, 373, 405, 541
Sex differences, 219, 561
Sleep mechanisms, 111
Sodium salicylate, 209
Soman, 145
Spectrin, 19
Spinal cord, 493
Spinoreticular tract, 457
Spontaneously hypertensive rat, 47
State-dependency, 339
Steroid modulation, 317
Stimulation, 405
Stress, 53
Striatum, 1, 61, 323
Stroke model, 467
Subfornical organ, 41
Substance P, 149, 561
Substantia nigra, 1, 61, 121
8-p-Sulphophenyltheophylline, 37
Sulpiride, 193
Suprachiasmatic nuclei, 283, 577
Supraependymal elements, 175
Supraoptic nucleus, 47
Systolic pressure, 47

Taste, 219
Terbutaline, effects on development, 263
Testicular and accessory organ weights, 193
Testosterone, 483
Thalamus, 277
Thermal gradient, 137
Thermocline, 137
Thermoregulation, 137
Thermoregulatory behavior, 137
Thermosensitive neurons, 209
Third ventricular injection, 471
Thirst, 289
Tissue culture, 161
Transcortical influences, 75
Transient ischemia, 569
1-[3-(Trifluoromethyl)phenyl]-piperazine (TFMPP), 541
Tyr-MIF-1, 413, 439, 443, 549

UK 14304, 417
Unit activity, 569

Vasomotor integration, 447
Vasopressin, 359
Vasopressin antagonist, 359
Vasotocin, 463
Vasotocin immunoneutralization, 463
Ventral noradrenergic ascending bundle, 397
Ventral tegmental area, 61, 541
Ventrolateral medulla, 447
Visual cortex, 75

Wy 26392, 425

Xanthine oxidase, 467

Yohimbine, 417, 425

Zona incerta, 25

# AUTHOR INDEX


Adams, J. D., Jr., 1
Adrien, J., 463
Aguirre, J. A., 201
Albers, H. E., 105
Aldes, L. D., 249
Alonso, J. R., 201, 277
Anogianakis, G., 257
Antunes-Rodrigues, J., 193
Apostolakis, M., 257

Baimbridge, K. G., 493
Bajpai, V. K., 175
Baker, F. E., 187, 263
Banks, W. A., 433, 439
Baring, M. D., 61
Barnes, K. L., 509
Barraco, R. A., 37, 299
Barrera, C. M., 439
Beitz, A. J., 25
Beninger, R. J., 365
Beutler, B. A., 471
Bhartiya, D., 175
Block, C. H., 509
Bluthé, R.-M., 359
Bos, N. P. A., 293
Bowers, B. J., 53
Braitman, D. J., 145
Bray, G. A., 165
Briese, E., 137
Butcher, L. L., 519

Carr, P. A., 493
Casanova, C., 75
Cérat, A., 75
Chai, C. Y., 447
Chi, D. S., 549
Chronister, R. B., 249
Conrath, M., 277
Coveñas, R., 201, 277

Dafny, N., 405
Dalterio, S. L., 333
Dantzer, R., 359
Dawid-Milner, M. S., 201
Deeter, L. B., 573
De Jonge, F. H., 483
Dewar, K. M., 237
Di Lorenzo, P. M., 219
Dobbins, S. S., 187, 263
Donoso, A. O., 183,
Druse, M. J., 69
Durham, D. A., 433

Economou, L., 257
El-Ridi, M. R., 299
Endert, E., 483
Estes, M. L., 509
Evered, M. D., 289
Evers, P., 483
Eylers, J. P., 263

Feldman, S., 397
Fort, P., 83
Fukuda, A., 149
Funk, A., 229

Gabel, S. A., 229
García-Herdugo, G., 201
Geller, I., 333
George, S. R., 215
German, D. C., 61
Gobaille, S., 129
González-Barón, S., 201
Gonzalez-Mora, J. L., 323
Goodman, S. R., 19, 311
Gorter, J. A., 293
Grondin, L., 237
Guadalupe, T., 323
Guan, X.-M., 541
Guevara-Guzmán, R., 283

Haas, D. A., 215
Hannam, A. G., 155
Hartmann, R. J., 333
Hasan, M., 175
Hasan Siddiqui, S., 289
Hechler, V., 129
Hoffman, D. C., 373
Hori, T., 209
Hubbard, J. I., 41

Imon, H., 569
Iriye, T., 111

Jouvet, M., 83
Jurčovičová, J., 417, 425

Kalivas, P. W., 1
Kallaras, C., 257
Kastin, A. J., 413, 433, 439, 443, 549
Kataoka, K., 569
Kenyon, P. J., 289
Koob, G. F., 359
Krukoff, T. L., 47
Krulich, L., 417, 425
Kuo, J. S., 447
Kuriyama, K., 209

Lappi, S. E., 263
Le, T., 417, 425
Lebrun, C., 359
Legoratti-Sánchez, M. O., 283
Leibowitz, S. F., 553
Le Moal, M., 359
Liangouris, J., 257
Lin, A. M. Y., 447
Lin, N., 41
Lin, R. H., 447
Lipton, J. M., 573
London, R. E., 229
Lopez, F., 171
Lopresti, L. L., 311
Louwerse, A. L., 483
Luppi, P. H., 83

McBride, W. J., 541
McCann, S. M., 193
McCann, S. M., 471
McGaugh, J. L., 339
McGinty, D., 111
McKay, K., 561

Maguire, P. A., 69
Maidment, N. T., 323
Maitre, M., 129
Malsbury, C. W., 561
Manaye, K. F., 61
Marco, L. A., 249
Martin, L. W., 573
Marubayashi, U., 193
Mas, M., 323
Masana, M. I., 477
Mattiace, L. A., 61
Mealing, G. A. R., 161
Mefford, I. N., 477
Messiha, F. S., 267, 273
Mihailoff, G. A., 61
Milenkovic, L., 471
Miller, C. A., 1
Miller, L. G., 171, 413, 443
Minami, T., 149
Mirmiran, M., 293
Mitani, A., 569
Mizuno, K., 209
Molotchnikoff, S., 75
Monroe, S., 219
Mori, T., 209
Morin, C., 75

Nagy, J. I., 493
Nakashima, T., 209
Navarro, H. A., 187
Nowack-Apostolaki, E., 257

Olson, G. A., 443
Olson, R. D., 443
Ooms, M. P., 483
Oomura, Y., 149

Pavel, S., 463
Pertovaara, A., 457
Phillis, J. W., 37, 467
Plata-Salaman, C. R., 149

Qiao, J.-T., 405

Rawls, S., 105
Rea, M. A., 577
Reader, T. A., 237
Rettori, V., 471
Reyes-Vazquez, C., 405
Riederer, B. M., 311
Roy, R. B., 171, 413

Sakai, K., 83
Salvert, D., 83
Sanberg, P. R., 331
Saphier, D., 389, 397
Sasaki, K., 155
Schwartz, J.-L., 161
Schwartz, R. D., 187
Schwartzenburg, D., 443
Seidler, F. J., 187, 263
Seltzer, A. M., 183
Sibbald, J. R., 41
Sikorski, A., 311
Simpson, L., 37
Singh, D. R., 175
Slotkin, T. A., 187, 263
Smith, S. S., 311
Solano-Flores, L. P., 283
Sparenborg, S., 145
Srivastava, A. K., 175
Strimas, J. H., 549
Su, C. K., 447
Szymusiak, R., 111

Tempel, D. L., 553
Toney, G., 229
Tonndorf, M. L., 155
Tsai, C.-T., 121
Tsui, L., 443
Tsujii, S., 165
Tukeva, T., 457

Van De Poll, N. E., 483
Van Der Werf, D., 293
Vincent, D. H., 47

Wayner, M. J., 331, 333
Wehner, J. M., 53
Weill, C. L., 171
Whishaw, I. Q., 347
Woolf, N. J., 519

Yamamoto, T., 493
Yoshimoto, Y., 83

Zagon, I. S., 19, 311
Zaraboukas, T., 257

Reproduced with the permission of Pergamon Press Inc., by University Microfilms Inc. Duplication or resale without permission is prohibited.